Testimony

to

Military Research and Development Subcommittee of the House Armed Services Committee

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by

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Mr. Chairman and members of the committee, thank you for providing this opportunity to present testimony regarding the value of small business to military research and development. As the founder and president of Oceanit (Oceanit Laboratories, Inc.), a small high technology company of approximately 100 professionals started nearly 16 years ago in Hawaii, I am happy to provide my perspective on this issue. Additionally, I would like to share with you a few examples of programs we are currently engaged in where we believe your support will make a big difference.

The nature of small business is vastly different from large business, particularly as it pertains to Department of Defense (DoD). Whereas large businesses excel with DoD by minimizing technical and business risk, small businesses excel by engaging and managing risks. A few of our ***Strategic Principals of Business Development*** at Oceanit include "**Chaos:** Seek out chaos – it's fertile with opportunities" and "**Nightmares:** Identify the worst problem the candidate customer has – it's the beacon to "value-added." Moreover, small technology businesses exist because they provide a "unique value proposition," that is typically outside the "comfort zone" of large business.

Two examples of programs Oceanit is presently involved with that illustrate the value of small business thinking are included as follows:

High Accuracy Network Determination System (HANDS): Under an AFRL Small Business Innovation Research (SBIR) grant via the Vehicle Space Directorate, Oceanit successfully demonstrated that high accuracy observations are obtainable utilizing relatively low cost optical sensors, referred to as the High Accuracy Network Determination System (HANDS). These highly accurate angular observations can be introduced into the orbit determination process as a supplement to high-quality range data. This information inexpensively reduces errors in the current space-object maintenance catalog. Discussions with Defense Support Program (DSP) indicate an improvement in ephemeris (celestial body coordinates) determination for DSP satellites by approximately 50%. **Oceanit's value proposition:** Whereas traditional large optics provide highly accurate characterization of space objects, operating capacity is limited and the cost per hour of operation is expensive. When full implemented, HANDS technology will provide information 24 hours per day, 7 days per week at a substantially reduced cost – resulting in a very inexpensive worldwide-distributed system to monitor situational awareness of space.

Total Orbital Debris Environmental & Engineering Model (TODEM):

Approximately 95% of all mass in low-earth-orbit (LEO) are "trash," creating a growing concern as we rely more on doing business in space. Under NASA SBIR support Oceanit developed a new web-based orbital debris simulation and prediction model -- making it

available anywhere and anytime via a password-protected web site. Our high fidelity model lays the foundation for detailed design of space orbits, armor, shielding devices and other debris risk mitigation measures. **Oceanit's value proposition:** New modeling concepts and use of the Internet make calculations and simulation widely available that were historically only offered through large-system software accessible to very few. When fully implemented, TODEM can inexpensively increase reliability and reduce operational risk in space.

In closing, although there are certain difficulties and disadvantages, it's great to be in a small business. We can think with more innovation and greater speed, and can turn much faster than our large business counterparts. As a result, I believe it's important to consider that although we all benefit from the robustness of large business, we need to keep in mind that small business is driven to provide a unique value proposition that keeps our country competitive, agile and on the cutting edge of technology.

Please accept my sincere thanks for this opportunity to provide testimony on this very important subject.